#3858

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

July 28, 2011

TO: Joe Helfrich, Lead

FROM: April Abate, Environmental Scientist III aaa 7-28-2011

RE: Permit Area Modification, Energy West Mining, Trail Mountain Mine, C/015/0009, Task ID #3858

SUMMARY:

On June 9, 2011 the Division received an application form Energy West Mining Company to modify the permit area for the Trail Mountain Mine. The amendment stemmed from the partial lease relinquishment on September 24, 2010 of areas that had been mined out in federal leases UTU-64375 and UTU-49332. Energy West plans to retain 640 combined acres of the two lease areas. The amendment submitted proposes to reduce the size of the mine by relinquishing acres of mined out land back to the Bureau of Land Management (BLM). Since there is no plan to expand mining into new areas not covered under the PHC, in accordance with R645-728.400, there is no need to modify the existing PHC document.

This memo will include a review of that information as it pertains to the hydrology sections of the regulations.

Summary of Deficiencies:

[R645-301-140]: The boundary proposed by the Permittee defining the "potential hydrologic impact area" is not consistent with the boundary defined in the Cottonwood Creek CHIA report prepared for the Trail Mountain Mine and is not consistent with some of the information presented in the PHC. The operator in consultation with the Division, should revise the "potential hydrologic impact area" in Section 7.2.3.2 of the MRP to better define the reasoning behind the boundary of the "potential hydrologic impact area". [AAA]

[R645-301-140]: The operator has attempted to drawn a **"potential hydrologic impact area",** which is meant to represent the area expected to have hydrologic impacts from the mine if any were to occur. The adjacent area marked in red does not represent the hydrologic impact area and should be removed from these maps. The operator in consultation with the Division, should revise the "potential hydrologic impact area" boundary on Plates 7-1, 7-2, 7-3, 7-4, 7-6, and 7-9.

TECHNICAL ANALYSIS:

GENERAL CONTENTS

Probable Hydrologic Consequences and CHIA Report

The Probable Hydrologic Consequences section of the MRP (Appendix 7-10) was reviewed in order to better understand the extent of anticipated hydrologic impacts from mining activities at the Trail Mountain mine. Currently, the mine is in temporary cessation with no current amendments under review to resume mining. The amendment submitted proposes to reduce the size of the mine by relinquishing acres of mined out land back to the Bureau of Land Management (BLM). Since there is no plan to expand mining into new areas not covered under the PHC, there is no need to modify the existing PHC document.

The PHC discusses mine dewatering activities creating a cone of depression from pumping that was estimated to extend 2 miles to the north and 5 miles to the east and west. This would effect the potential hydrologic impact area and extend it out significantly further than what was proposed on the maps submitted under task # 3858. However, it is not clear if this cone of depression would truly effect this large of an area since major escarpments form Straight Canyon and Upper Cottonwood Creek to the east and south.

The CHIA report, which is titled "Cottonwood Creek Basin" and dated April 15, 1991 depicts the CHIA boundary as advancing as far north as Sections 3 and 4 in T17S R6E. The reduction in acreage is still encompassed within the CHIA boundary and therefore, there is no need to provide an updated CHIA based on the contents of this amendment. However, the CHIA has not been updated in 20 years and is recommended for updating by the Division.

Section 7.2.3.2 in the MRP was not updated to show any justification for how the potential hydrologic impact boundary was derived and it does not follow the boundary outlined in the CHIA report.

Findings:

[R645-728.400]: An update to the PHC is not required based on the contents of this permit revision.

[R645-729.200]: An update to the CHIA is not required based on the contents of this permit revision. *However*, an update to the CHIA by the Division is recommended since the report is dated April 1991.

[R645-301.140]: The boundary proposed by the Permittee defining the "potential hydrologic impact area" is not consistent with the boundary defined in the Cottonwood Creek CHIA report prepared for the Trail Mountain Mine and is not consistent with some of the information presented in the PHC. The operator in consultation with the Division, should revise the "potential hydrologic impact area" in Section 7.2.3.2 of the MRP to better define the reasoning behind the boundary of the "potential hydrologic impact area".

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Plates 7-1, 7-2, 7-3, 7-4, 7-5, 7-6, 7-7, 7-9, 7-10, 7-11 were submitted as part of this amendment to depict the redrawn permit and lease area boundaries. Each lease is labeled with its applicable identification number. The permit area has now been designated as the surface facilities boundary located along Cottonwood Creek in Section 25 of T17S R6E. The adjacent area is shown on the map as a red line boundary surrounding the entire permit area and incorporates 260 acres of lease UTU-64375 and 380 acres of UTU-49332 and all of Lease U-082996. Additional adjacent area has been demarcated in red extending north and south of the "permit area" along Cottonwood Creek into Sections 24 and 36 of T17S R6E.

Plate 7-1, Location of Seeps and Springs/Relationship of the Blackhawk-Starpoint Aquifer Map has been updated to depict the new permit and adjacent area boundaries. This map also depicts the underground workings and two sets of presumably groundwater contour lines in blue and green. In addition, topographic contour lines are also shown on this map. This map also depicts a newly drawn "potential hydrologic impact area" in blue. This boundary is intended to encompass the area of all possible hydrologic impacts that the mine could have.

Plate 7-2 Water Monitoring and Discharge Locations also shows "potential hydrologic impact area" in blue. According to this map, there are 3 developed springs with an associated stockwatering trough. These springs are located in Sections 22, 35 of T17S R6E and Section 2 of T18S R6E.

Plate 7-3 Underground Water Monitoring Locations depicts two in mine wells used to sample in-mine water. UG-2 and UG-3 are both inactive.

Plate 7-4 Surface Water Rights Map – this map depicts surface water rights along various stream segments. No other surface water right types such as point-to-point diversions, springs are shown on the map.

Plate 7-5 – Drainage Controls: This map depicts the disturbed and undisturbed routing of drainage in and around the surface facilities area. No boundary changes are needed for this map.

Plate 7-6 – Drainage Areas: This map shows a larger view of the regional drainage controls in the areas surrounding the permit area.

Plate 7-7 Sedimentation Pond Details: As-built drawings of the sediment pond in the permit area. No changes needed to this map.

Plate 7-9 Extent of Alluvium: Depicts an area mapped as alluvium with smaller areas within the alluvium mapped as irrigated lands. The alluvium area begins about 3,000 feet southeast of the permit boundary along Cottonwood Creek and is deposited mostly at the confluence of Upper Cottonwood Creek and Straight Canyon.

Plate 7-10 Cottonwood Creek Channel Change Cross Sections: Profile of the Cottonwood Creek Channel. No Changes.

Plate 7-11: Sediment Control Measures: Various cross sections of different sediment control measures. No Changes.

Certification Requirements

All submitted plates were stamped and signed by John Christensen, a Utah registered professional engineer.

The application meets the Certification Requirements of the State of Utah R645-Coal Mining Rules.

Findings:

[R645-301.140]: Plates 7-1, 7-2, 7-3, 7-4, 7-6, and 7-9 depicts either a red line that is labeled as the "adjacent area" or a blue labeled the "potential hydrologic impact area", or both on these maps. The adjacent area for potential hydrology-related impacts is determined by a number of sources: the watersheds mapped in the areas, the probable hydrologic consequences section of the MRP, and the Division Cumulative Hydrologic Impact Assessment document to name a few. For example, a pre-determined "adjacent area" for biological impacts does not necessarily coincide with an adjacent area for hydrologic impacts.

The operator has attempted to drawn a **"potential hydrologic impact area",** which is meant to represent the area expected to have hydrologic impacts from the mine if any were to occur. The adjacent area marked in red does not represent the hydrologic impact area and should be removed from these maps. The operator in consultation with the Division, should revise the "potential hydrologic impact area" boundary on Plates 7-1, 7-2, 7-3, 7-4, 7-6, and 7-9.

RECOMMENDATIONS:

The application is not recommended for approval at this time.

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